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cond a plurality of first diodes connected to the pads so that each first diode is connected to a pad and a negative line;

a plurality of second diodes connected to the pads so that each second diode is connected to a pad and a positive line.

Please add the following new claims:

J1 --38. The chip of claim 19 wherein none of the plurality of positive lines encircles the periphery of the chip.

39. The chip of claim 15 wherein a switch of the plurality of switches includes a transistor connected to a positive line and the negative ring.

SUB G2> 40. The semiconductor chip of claim 15 wherein a first diode of the plurality of first diodes comprises:

DI a plurality of first regions, the plurality of first regions being spaced apart from each other;

a second region, the plurality of first regions being formed in the second region, the plurality of first regions and the second region having opposite conductivity types, the second region having a dopant concentration; and

a third region formed in the second region, the third region being spaced apart from each first region, and formed between each adjacent pair of first regions, the third region having a dopant concentration that is higher than the dopant concentration of the second region.

J1 41. The semiconductor chip of claim 40 wherein the second region is formed in the substrate, the second region and the substrate having opposite conductivity types.

42. The chip of claim 41 wherein the plurality of first regions have a dopant concentration that is higher than the dopant concentration of the substrate.

43. The semiconductor chip of claim 40 and further comprising a fourth region, the second region being formed in the fourth region, the second region and the fourth region having a same conductivity type and different dopant concentrations, the fourth region being formed in the substrate, the fourth region and the substrate having opposite conductivity types.

44. The chip of claim 43 wherein the plurality of first regions have a dopant concentration that is higher than the dopant concentration of the substrate.--